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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/731,066	12/06/2000	Christopher P. Townsend	1024-034	1286

26542 7590 07/22/2003

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EXAMINER

RIMELL, SAMUEL G

ART UNIT	PAPER NUMBER
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2175

DATE MAILED: 07/22/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.	Applicant(s)	
09/731,066	TOWNSEND ET AL.	
Examiner	Art Unit	
Sam Rimell	2175	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-61 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-61 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

Application Papers


- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

  
SAM RIMELL  
PRIMARY EXAMINER

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Preliminary Note: Applicant's response to the office action of 5/8/03 is a copy of the preliminary amendment filed 4/10/01, including additional claims 40-61. These claims were not available in the record at the time of mailing of the first office action of 5/8/03. Accordingly, this office action includes all of the same content of the previous office action, and further includes an examination of claims 40-61. Presently, claims 1-61 are of record. This office action is not made final.

Claims 2-5, 13-15 and 30-33 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 2-5: In claim 2, it is not clear whether the claim is limited to one of the sensor types, some of the sensor types, or all of the sensor types. Claims 3-5 depend from claim 2.

Claim 13: It is not clear how the microprocessor is associated with the apparatus.

Claim 14: The phrase "said receiver" lacks antecedent basis with the claims from which it depends.

Claim 15: Claim 15 depends from claim 13.

Claim 30: It is not clear how the feedback device is associated with claimed apparatus.

Claim 31: Claim 31 depends on claim 30.

Claim 32: The phrase "measured excess vibration" lacks antecedent basis since the claims from claim 32 depend do not require any measurement of vibration.

Claim 33: Claim 33 is a verbatim copy of claim 32. It therefore contains the same grounds of rejection under 35 USC 112 as claim 32.

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The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-10, 12-16, 21-31 and 34-61 are rejected under 35 U.S.C. 102(e) as being anticipated by Agre et al. (U.S. Patent 6,208,247).

Claim 1: Agre et al. discloses a sensing unit (FIG 3). The intended usage of attaching the sensing unit to a structure or live subject is recited functionally and is attributed no patentable weight. As seen in FIG. 3, the sensing unit comprises one or more sensors (12), a first data storage device (16, 21) and a transmitting device. The signals transmitted from the sensing unit can be transmitted to another sensing unit (col. 2, line 43). Thus, another sensing unit can read as the claimed control unit and include data receiving device (22) and second data storage device (16, 21). A triggering device (19, 20) can both modify the storage of data by triggering the processor to begin storing new types of data (col. 9, lines 42-49 and col. 9, lines 56-65) or transmit the existing data set that has been stored (col. 5, lines 35-37).

Claim 2: The sensor can include an accelerometer (col. 3, line 16).

Claim 3: Given that the sensor can be an accelerometer, reference numeral 12 in FIG. 12 teaches that the sensor can be array of sensors, such as an array of accelerometers.

Claims 4-5: Col. 3, lines 14-20 allow for the usage of any type of sensor, provided that it is small and consumes little power. Thus, linear accelerometers and piezoelectric devices are encompassed by this teaching. Note also that col. 6, line 45 mentions the usage of piezoelectric

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materials to form the sensor. Thus, accelerometer may be a piezoelectric accelerometer sensing linear accelerations.

Claims 6-9: Claims 6-9 are addressed entirely to intended usages and intended attachments for the sensing unit which are only recited functionally. Accordingly, these intended usages and attachments are attributed no patentable weight.

Claim 10: FIG. 1 the sensing unit of FIG. 3 in a sealed housing.

Claim 12: An antenna (4) extends out of the housing and is connected to the transceiver (22).

Claim 13: The sensing unit includes microprocessor (20).

Claim 14: The microprocessor (20) is part of the sensing unit. The first storage device (16, 21) communicates with the transceiver (22) and the microprocessor (20).

Claim 15: The microprocessor communicates with triggering device (19).

Claim 16: The sensor unit includes power supply (3).

Claim 21: The sensing unit has an RF transceiver (22; also see col. 3, line 54).

Claim 22: The transceiver (22) is a transmitting device.

Claim 23: Col. 5, lines 56-58 state that all of the nodes (which would include the control unit) are capable of both sending and receiving instructions for the operation of the sensors. These instructions read as timing signals.

Claim 24: Claim 24 is addressed entirely to intended usages of the timing signals, which are functionally recited. Accordingly, these functions are not attributed patentable weight.

Claim 25: The first storage devices (16, 21) can receive and record the instruction signals.

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Claim 26: The first storage devices (16, 21) continually record data.

Claims 27-29: The first storage devices are controlled by the data received by the sensor in that the storage devices will receive new types of data if a specific data threshold is detected. Col. 9, lines 42-65 outline a procedure in which the detection of data having a certain threshold value will trigger the microprocessor to change the profile of data being collected, and order new types of data to be collected and saved in the in the storage devices for possible transmission to another node in the system.

Claims 30-31: In FIG. 3, the communication line between the threshold comparators (19) and the memory (21) read as a feedback device.

Claim 34: The data storage devices are part of a computer.

Claim 35: See col. 9, lines 42-65.

Claim 36: The control unit includes transceiver (22), just as it is included in the sensing unit.

Claim 37: The control unit can include a triggering device (19, 20), just as it is included in the sensing unit.

Claim 38: Claim 38 is addressed entirely to functionally recited intended usages of the control unit, which are not attributed patentable weight.

Claim 39: See remarks for claim 1.

Claim 40: Agre et al. discloses an addressable sensing unit (FIG. 3). The sensing unit is part of a network of sensing units (col. 5, line 55). The recited intended usage of the sensing units for attaching to a structure or live subject carries no patentable weight. Each sensing unit senses sensing parameters. Each sensing unit comprises sensors (12), an addressable

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microprocessor (20), first data storage devices (16, 21) and first transmitting/receiving device (22).

Claim 41: The signals transmitted from the sensing unit (FIG. 1) can be transmitted to another sensing unit (col. 2, line 43; col. 5, line 55; col. 11, lines 30-58). Thus, another sensing unit can read as the claimed control unit and include a second transmitter/receiver (22) and second data storage devices (16, 21).

Claim 42: As described with respect to claim 41, the control unit is simply another sensing unit in the network of sensing units. The information sent from one node to another node in the "hopping" transmissions (col. 11, lines 38-42) will inherently include address information for the destination node, otherwise, there would be no way to direct the data through the network to the desired destination node.

Claim 43: The control unit must inherently provide an address to a destination node, as described with respect to claim 42. The communication sent to destination node reads as a query.

Claim 44: The transmitting/receiving device is (22). Col. 10, lines 30-37 call for each node to transmit data items known as "frame synch slices" so that all of the nodes operate in synchronization. Each node can listen for a frame synch slice (col. 10, line 32) or transmit the frame synch slice (FIG. 7, steps 92-93). The frame synch slice is a timing signal.

Claim 45: The microprocessor (20) within each sensing unit can activate that sensing unit (col. 3, lines 34-38).

Claim 46: Each node further includes a signal conditioner (17, 80, 19), an A/D converter (14) and a clock (col. 7, lines 40-41).

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Claim 47: The first data storage device (16, 21) is connected to the first transmitting device. No patentable weight is attributed to the recited intended use.

Claim 48: The transmitters (22) are all wireless transmitters.

Claim 49: See remarks for claim 27-29.

Claim 50: See remarks for claims 40-41.

Claim 51-52: See remarks for claim 42.

Claim 53: See remarks for claim 43.

Claim 54: The microprocessor (20) within each sensing unit can activate that sensing unit (col. 3, lines 34-38). Note that patentable weight is only attributable to one of the recited alternatives. The claim is not limited to all of the recited alternatives, by reason that they alternatives rather than mandatory features.

Claim 55: Since the microprocessor forms part of an addressable node (see remarks for claim 42), the microprocessor may also be considered as addressable.

Claim 56: See remarks for claim 46.

Claim 57: The microprocessor (20) controls storage in the storage devices (16, 21).

Claim 58: The transmitting/receiving device (22) can transmit data to another node. The other node is readable as the claimed control unit.

Claim 59: The control unit includes second transmitting/receiving device (22) and second storage devices (16, 21) which respectively receive and store data.

Claim 60: See remarks for claim 48.

Claim 61: See remarks for claim 27-29.



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The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Agre et al. (U.S. Patent 6,208,247).

Claim 11: Agre et al. differs from claim 11 in that it does not recite the material used to form the housing. However, forming the housing from well known durable materials would have been obvious to one of ordinary skill in the art as a choice of well known materials.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 17-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Agre et al. (U.S. Patent 6,208,247) in view of Fischell (U.S. Patent 4,096,866).

Claims 17-20: Agre et al. differs from the claims in that it does not disclose the as being rechargeable or by recharging the batteries via inductive coupling. Col. 2, lines 17-22 of Fischell teach that batteries contained in a sealed enclosure can be recharged by the usage of inductive coupling, without opening up the container. It would have been obvious to one of ordinary skill


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in the art to modify Agre et al. to deploy rechargeable batteries which are rechargeable by inductive coupling so as to eliminate the need to physically open up the housing to replace the batteries as taught by Fischell.

Claims 32-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Agre et al. (U.S. Patent 6,208,247) in view of Julien et al. (U.S. Patent 5,005,678).

Claims 32-33: Agre et al. discloses devices capable of sensing and measuring vibration (col. 6, lines 64-65; col. 3, lines 14-20). Agre et al. also discloses that sensors can be used for monitoring the status of an industrial process or a physical change in a condition. (col. 4, lines 55-57). Agre et al. differs from claims 32-33 in that it does not disclose active damping elements which act in response to measured vibration. Julien et al. teaches that in the industrial process of moving a satellite optical system (col. 1, lines 19-25), sensors may detect vibration and active damping elements may reduce or eliminate the detected vibration. It would have been obvious to one of ordinary skill in the art to modify Agre et al. to further include active damping to reduce or eliminate detected vibrations in an industrial process as taught by Julien et al.

Any inquiry concerning this communication should be directed to Sam Rimell at telephone number (703) 306-5626.



Sam Rimell  
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Art Unit 2175